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A PAPER

ON THE

NEGLECTED ADVANTAGES OF CAUSTICS

IN THE

TREATMENT OF MALIGNANT DISEASES

IN CERTAIN LOCALITIES.

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RUDOLPH MATAS, M. D.

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One of the aphoristic dicta of the school of Cos, which has became celebrated, reads: “*Quæ medicamenta non sanant, ea ferrum sanat; quæ ferrum non sanat, ea ignis sanat; quæ vero ignis non sanat, ea insanabilia reputare oportet.*”

This aphorism is of a value as marking the first phase in the history of cauterization in surgical practice.

Of *easy access, prompt and effective*, it was natural that the actual cautery should have become by natural right the primitive caustic agent.

Like most good things therapeutic, it is well known how it was praised, indiscriminately generalized, and abused. With the Arab, the fanatic, and over zealous followers of the Greek Hippocratic and Galenical schools, we see the barbarous abuse of this valuable destructive agent illustrated. It is reported that “they cauterized for empyema, they plunged the red hot iron into hepatic abscesses, into the abdomen for dropsical effusions; they opened the urinary

* A lecture delivered in the New Orleans Polyclinic, session of 1889.

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bladder for stone with a scalpel at a red heat; they opened the sac in hydrocele with the actual cautery and burned rectal ulcers with it; they consumed by fire polypoid growths of the nares; they burned the skin over hernias with it; the treated fistula in ano and prolapsus recti by the same means; they likewise burned fungous growths of the rectum; varices, the tubercles, and eroding ulcers of the genitals; they corrected with the red hot iron the congenital occlusion of the nares, webbing of the fingers, atresia of the mouth of the vagina; they burned away the overgrown *frœnulum linguæ*, etc.; it was used as the hemostatic in amputation and other wounds, and in most cases, especially those of a vascular character, was constantly associated with the knife."

The hot iron remained *facile princeps*, a true master of the field until the end of the mediæval period, when, with the advent of alchemy, the resources of true chemistry began to glimmer in the general darkness and the potential caustic gradually assumed the proportions of a rival. With the progress of chemistry the potential caustics began to rise in the ascendancy, and the second period in the history of cauterization was established, that of the chemical caustics.

With the great "renaissance" of the sixteenth century, and extending impetus given to medical investigation and progress by Harvey's discovery of the circulation of the blood (1628), Paré's discovery of the arrest of the hemorrhage by the ligature, and the further progress of anatomy and chemistry, the actual cautery continued to fall into disuse.

With the general awakening of the sixteenth century, which signalized the modern period, and the advent of the three great medical reformers, Paré, Vesalius, and Harvey, there was a steady downfall in the value of the actual cautery. Louis, the distinguished secretary of the French academy, in a memoir contributed in 1755 (*Prix de l'Académie de Chirurgie*, T. III, p. 284, edit. 1819),

wrote: "Since the discovery of the circulation of the blood, the fundamental doctrines of the healing art have changed aspect completely. Surgeons have cultivated anatomy, operations have been perfected, because the masters of the art have better understood the human body and the maladies which attack it; they have invented new instruments; fire has inspired aversion and the potential has taken the place of the actual cautery whenever it has been impossible to bring cutting instruments into play. The progress of chemistry which has multiplied the number and varieties of caustic substances, has very probably contributed to the progressive abandonment of the actual cautery," and he recorded with regret that the cautery was being abandoned entirely, its use being reserved for few special occasions, such as a hemostatic in hemorrhage occurring during sequestrotomy.

Another author who wrote about the early part of this century chronicles the fact: "That the actual cautery has ceased to be mentioned in the texts. It has been entirely proscribed in surgical practice, and it is with difficulty that any cautery irons are to be found in any surgical case."

It was also doubtless at the instigation of Louis that the French academy in 1754 proposed as a subject for a prize essay the question: "Had not the actual cautery been too much abused by the ancients and too greatly abandoned by modern surgeons?" This question had a salutary effect, and from that time, steady and good work was done with the view of establishing the actual cautery on a sound, experimental and clinical basis. The labors of Rust (Vienna, 1817), of Hoppe (1847) in Germany, of Estor (Montpellier, 1840), of Bonnet, 1850 (?), (Lyons), etc., all summarized in the classical treatise of Phillippeaux (*Traité pratique de la cauterization, d'après l'enseignement, clinique, etc., 1856, Paris*), and various other good works attest the seriousness of the reactionary feeling.

The potential or chemical caustics were studied with equal care and fervor. The researches of Mialhe, Fer-

rand and Phillippeaux on the different caustics caused this mode of securing the destruction of the living tissues to enter into a truly scientific path.

The clinical application of the galvano-cautery by Middledorpf, of Breslau, in 1854, and the discovery of electro-chemical or electrolytic cauterization by Cineselli, of Cremona, in 1860; also the more elegant, ingenious and easily applied thermo-cautery of Paquelin, reacted very largely in favor of the modified actual cautery as against the chemical caustics, liquids, pastes, etc., which so occupied the attention of the older surgeons and pharmacologists.*

It must be noted that the continued and extraordinary advances of surgery, which culminated in the establishment of the Listerian principle and more or less general adoption of the antiseptic method of treating wounds has been the greatest factor in eliminating from surgical practice the use of the potential or chemical caustics. Under the protecting ægis of this method, the surgeon has largely increased the domain of his conquests and has caused to disregard largely the dangers of the most severe and mutilating traumatisms when *surgically* inflicted. Under its protecting influence the surgeon has felt encouraged to try anew his attack on malignant disease, because by bolder surgery larger areas can be extirpated and that great desideratum, *extirpation beyond the invaded territory*, can be more readily secured. The more modern operations of Gross and Banks for the extirpation of mammary cancer, the enormous operations of Kocher and others on the cranial vault and dura mater for malignant disease of these parts; the operations of Kocher, Billroth and the Reverdins for cancerous goitre; the operation of Kraske for the complete extirpation of the rectum; Pean's operation for hysterectomy, etc., indicate the latest phases of our aggressive modern surgery in its warfare against malignant disease,

* For a very complete list of references on the subject of cauterization and able summary of its historical features, see U. Trelat's and Charles Monod's article in Dechambre's dictionary.

and especially in the greater technical advances of this period. Furthermore, it is natural that whilst our generation is possessed of the intensely surgical spirit which dominates it, that all such apparently tame and apothecary's treatment as the treatment by the chemical caustics will necessarily stand a poor chance, and perhaps rightly.

On the other hand it may be safely said in regard to the actual cautery that it has resurrected from the tomb in which it had been buried only to appear as the ally of the knife and in a new and handsomer guise, whilst the chemical caustics, which at one time had almost completely superseded it, are now in their turn buried as thoroughly underground as the actual cautery was when Louis lamented its forgotten virtues before the French academy in 1755.

In fact it may be also said that the use of chemical caustics, with some notable exceptions, has now completely fallen into disuse in the hands of the profession, and the skillful application of these agents, especially in that field in which they are most indicated, viz.: the treatment of malignant disease, has fallen into the hands of charlatans and empirics, who, notwithstanding their very reckless handling of them—sometimes as recklessly as the Arabs used the actual cautery—often succeed in obtaining results which surprise if not mortify us.

* * *

Up to a very recent date there lived a man in this city whose name was doubtless more familiar to the mass of this population than that, I dare say, of the most accomplished local practitioner. He was a so-called "cancer-curer." He was one of many quacks who professed to cure this disease in this city, but he was the prince of them all ; he alone was regarded by the populace as the sole possessor of the secret of the true cure of this direful and dreaded malady. He was certainly a most illiterate, ignorant man, knowing nothing of the first elements of a medical education, absolutely a blank in all that concerned learn-

ing in medicine or anything like it; still it was a fact he did cure *some* cases of cancer, and a great many more that were not cancer, for, of course, he could not know the difference between benign and malignant growths.

As an illustration of the way in which this "cancer curer" obtained fame and lucre, the case which was related to me by my friend, Dr. A. McShane, Assistant Pathologist of the Hospital, is very instructive: A young mulatress, who had attended a ball, danced too much and had chafed the skin over the inner side of the left metatarso-phalangeal joint of the big toe. She neglected it and it developed into an irritable ulcer, with thickened edges. She consulted the "cancer curer," who told her that the sore was a cancer of the worst sort. But before consenting to cure the formidable disease, he told her to go to the Charity Hospital and get the doctors there to pronounce the disease cancerous. She did go to the Charity Hospital, and the physician of the ward told her that it was a simple ulcer. After a few days of appropriate treatment the ulcer was entirely healed and the "cancer curer" robbed of some glory and gain. Still, in the large number of cases that he treated, he did "cure" the cancer that had been diagnosticated as such by accomplished physicians; cases, many of them, which had been abandoned and forsaken as incurable. And this man used only a caustic paste; he was the ideal type of the cancer-curer, fighting all the tumors that were brought to him with the same compound, the quasi archaic, but vigorous formula, discovered perhaps in some ancient and forgotten text, or transmitted to him as a family heirloom, but still the recipe for concocting a mixture which had at least one virtue, *i. e.*, that of destruction.

The history of one or two cases, which I knew to have been instances of true carcinoma and who submitted themselves to the treatment of this charlatan rather than undergo a surgical treatment—one of them treated by him with complete success and the other partially so; the first (the successful case), a scirrhus of the breast, and

the other (partial success) an epithelioma of the uterus—impressed me deeply, and made me think considerably at the time of the possible advantages with which caustic agents might be employed by a judicious and discriminating surgeon; and how it was possible that this worthy old method of cure might be rescued from the apparent oblivion with which it was threatened and the discredit which the blind, indiscriminating empiricism of charlatans was throwing upon it, by limiting its application to suitable cases and thereby bringing it back to its truly limited but legitimate field of usefulness.

* * *

Notwithstanding my emphatic belief in the superiority of the knife for the extirpation of malignant growths, whenever it is possible to get well beyond the infiltrated area and to remove likewise any secondarily invaded foci, I soon had an early opportunity to test the virtues of caustic agents. It was a case totally unfit for true surgical intervention and which, had I limited my resources to cutting measures, I should unquestionably have dismissed as incurable from the moment that he first sought my advice.

The case was one of true rodent ulcer of the face (squamous celled epithelioma), and as you will see by the photograph taken by myself at the time he was first placed under my care, it is worth recording, if only for the extent of the lesion and its long standing:

“ The patient, Victor L., a white creole, *æt.* 57, farmer, was admitted in ward 8, Charity Hospital, Aug. 21, 1887. He is of healthy parentage, and has enjoyed good health until quite recently, when the aggravation in his present trouble has given him much worry and pain. He has never had venereal disease. He states that about ten years from date he noticed a slight ‘pimple’ on the side of his face. This ‘pimple’ gradually grew larger, and finally ulcerated. It was originally situated at the back of the cheek, but it gradually spread, though very slowly indeed, till it reached its present dimensions. The growth

and spread of the ulcer was so slow that it took eight years for it to reach its present dimensions. As shown in the photograph, there existed at the time of admission a large ulcerated surface, irregularly circular in outline, which extended laterally from the angle of the left eye and angular process of the left frontal to the tragus of the ear, and vertically from the temple at a point corresponding to the level of the angular process of the frontal to about one-half inch from the angle of the lower jaw. The ulcer presented a slightly granular and red appearance; the edges were slightly but distinctly infiltrated, and a certain amount of sanguous pus moistened its surface. There were no enlarged lymphatics.

The diagnosis was plainly: Rodent ulcer (squamous-celled epithelioma) of the face.

The patient, furthermore, informed me that during the last eight years, during which his attention had been seriously attracted to the ulcer, he had consulted several physicians, several of whom advised soothing salves, others cauterized the ulcer and gave him internal medicine, but no one cured him or even relieved him. He was very much discouraged; his resources were exhausted, and he finally believed that he had come to the hospital to die slowly but surely of his disease, which he had been told was incurable.

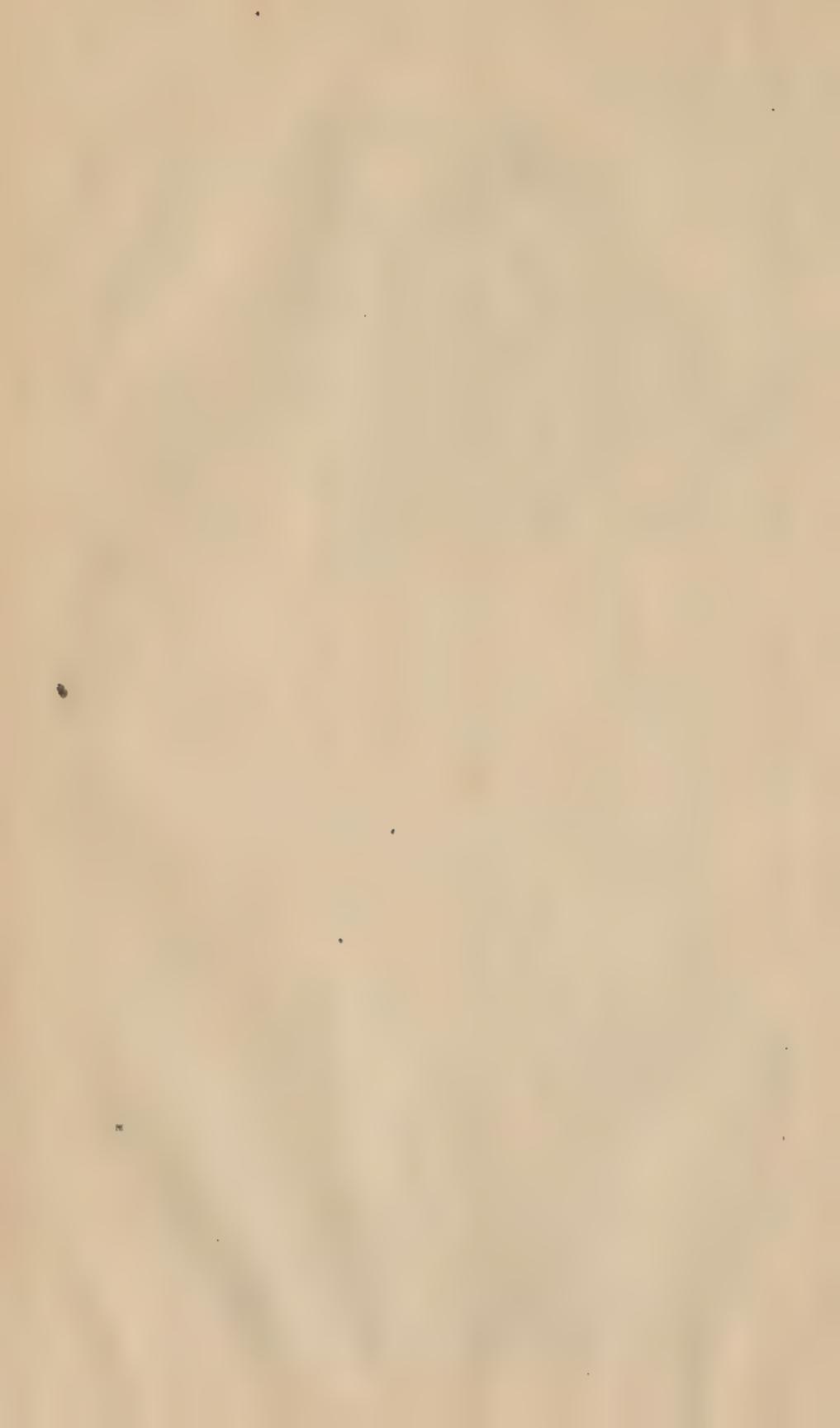
The history of the patient was certainly not very encouraging as far as radical cure was concerned, for it was evident that the ulcer had received very considerable attention, it had been treated in many ways, and it had been cauterized, but had it been cauterized sufficiently? It was plain that in this case the disease was most unfavorably situated for extirpation by the knife, in fact this was practically impossible in view of the great likelihood of the periosteum covering the bone being involved. It was, therefore, an excellent case for either curetting or caustics, or both combined. While debating in my mind as to the best procedure to adopt for the treatment



I. Cancer before the application of the paste.



II. Appearance of face after action of paste and subsequent cicatrization.



of the case, I received Mr. Butlin's admirable work, "The Operative Surgery of Malignant Disease," which had just been issued, in which I was pleased to observe that this most earnest and learned student of cancerous disease took an unusually favorable view of the treatment of malignant growths—in appropriate localities and under proper conditions, of course—with caustic agents. In regard to rodent ulcers, he says: "Caustics have been largely employed in the treatment of the earlier stages of rodent ulcers, more largely probably than by any other means. But they have been employed in such a half hearted fashion and apparently with so little confidence on the part of the operator of really ridding the patient of the disease, that they have almost come to be regarded by the profession as an almost useless means of cure. There is not the slightest reason, however, why even extensive rodent cancers should not be treated by means of caustics with as thorough success as if the knife had been employed. Faint hearted applications of nitric acid, the acid nitrate of mercury, Vienna paste, and chloride of lime, which are so used that they only destroy the surface of the disease and leave the base behind, do more harm than good. It is of little consequence which of several caustics is selected, caustic potash, Vienna paste, or another, provided the main object of the applications be kept in view—not merely destruction of the disease, but its prompt and complete destruction." Butlin here refers to a caustic paste,* which is employed by Dr. Bougard, of

*Bougard's paste, which Butlin has tried with excellent results in cases mostly of cancer of the breast, consists of:

Wheat flour	60 grammes.
Starch	60 grammes.
Arsenic	1 granime.
Cinnabar	5 grammes.
Scl. ammoniac	5 grammes.
Corrosive sublimate	0.50 centigrms.
Sol. zinc chloride at 52 deg.	8 and 5 grammes.

The six first ingredients are separately ground and reduced to fine powder; they are then mixed in a mortar of glass or china, and the solution of chloride of zinc is slowly poured in while the contents are kept rapidly moving with a pestle, so that no lumps shall be formed.

Brussels, Belgium, who appears to have devoted himself specially to the cure of cancer by caustics, vide, "*Etudes sur le Cancer*," par le Dr. Bougard, Bruxelles, 1882.

Thus encouraged by this eminent authority I was about to apply the Bougard paste, when I received about the same time a copy of the London *Lancet* for Aug. 6, 1887, which contained a therapeutic memorandum referring to a paste recently introduced by Dr. Jules Felix, another cancer specialist of Brussels, who having found existing caustics unsatisfactory from the great pain which is caused by their application (Bougard's is admittedly painful), from the difficulty of limiting their action precisely to the parts desired, from their deliquescence, and from various other causes, has devised a form of paste which he has been using for some time past with the best results. It does not cause severe pain or set up any general reaction: the eschar is well defined, so as to be easily detached. It is also a powerful antiseptic and hemostatic. It is not deliquescent, but keeps its consistence, which is that of putty well, and so lends itself easily to manipulation. The hands should be wetted when applying it. They are not in danger of being acted on. The paste is allowed to remain from six to twenty-four hours, according to the amounts of eschar which it is desired to form.

The formula for the paste is as follows. Mix in a mortar the following substances in powder:

R. Starch	37 grammes.
Wheat flour.....	113 grammes.
Mercury bichloride.....	1 gramm.e.
Granular zinc chloride.....	110 grammes.
Iodol pure.....	10 grammes.
Croton chloral.....	10 grammes.
Camphor bromide.....	10 grammes.
Carbolic acid (cryst.).....	10 grammes.

Add gradually a sufficient quantity of distilled water to form a homogenous mass without lumps, of the consistence of putty. This paste will keep an indefinite length of time.

This paste certainly appeared to possess distinct advantages over those usually employed for caustic purposes, and I immediately had it prepared and applied it myself as

directed. The ulcerated surface being very extensive, I applied the caustic, in two sittings, over the whole ulcer. After each application, which lasted over twelve and twenty hours, a large, thick, whitish eschar was found which fell off usually in a week, leaving behind it a granulating surface which had a tendency to glaze over readily. The first application was made directly along the upper margin of the ulcer, and when the eschar fell, it was noticed that the external angular process of the frontal was denuded under it. Not understanding the full penetrating power of the paste, I thought that the bone would soon be covered again with granulations; but not so, for about a week afterward, while examining the patient, I found the piece movable, and by dint of slight traction the external wall of the orbit came away. Shortly after, the osseous zygomatic arch, which had been completely divested of soft parts by the paste, also came away with the forceps, and the face lost its normal outline completely on that side. This vigorous action of the caustic made me very careful in future, especially in dealing with the disease when it showed a tendency to spread into the temporal fossa. Here I do not doubt that an injudicious application of the paste would have ended in an exfoliation of the squamous portion of the temporal, which is very thin, and that a fatal penetration of the cranial cavity would have ensued.

The case did very well for quite a while after the first cauterization. It had almost completely healed over in the deceptive way which is quite peculiar to rodent ulcer, when the border which touched on the ear showed a disposition to a return of ulceration; the paste was immediately applied and the falling of the eschar was synchronous with the loss of half of the external ear (pinna); the ulcer now healed up completely at this point and has never since, over a year, given trouble; but the worst complication that nearly compromised the patient's life for a time was the diffuse panophthalmitis which followed the effects of the

caustic as it was applied to the external canthus and lids to root out the epithelioma at these points. The ophthalmia gave the patient a terrible amount of pain, and at one time I despaired of his life, but he finally recovered after a month of confinement in bed and considerable distress in recovering his general health, though his left eye was lost irreparably, a result which would have certainly followed the advance of the ulcer itself. Anyway, after one year of treatment, not always for the rodent ulcer, but more particularly for the ophthalmia, he is almost well. The originally cauterized portions have *not* broken open again, and there remained only one small spot which looked to me suspicious near the eyebrow, and I have only recently applied the paste to this with the effect that you can see in the photograph. Certainly, thus far, the condition of the patient is encouraging, and it appears to me that if it continues this way any further tendency to spread which the disease may show will be easily restrained by the vigilant and timely application of the caustic. An inspection once every two months would suffice, it appears to me, to notice any threatened complication.

The present case, therefore, illustrates the beneficent as well as the dangerous effects of caustics if vigorously applied. Of course, I dare not say that a cure has been effected for a sufficient time has not yet elapsed since the complete closure of the ulcer; but certainly the patient has been made more comfortable—he is not bothered by a foul smelling suppuration and no pain. In addition, though disfigured, he does not present that repugnant appearance which the large raw surface first gave to his countenance. Certainly, the ulcer was never near so well since its existence.

While observing this case I have had occasion to treat in a similar manner and with the same agent, both in hospital and private practice, a number of cases, and all with excellent results in all the cases thus far tried. The cases

are, all adults and old subjects in addition to the one reported :

1. Epithelioma of skin over sternum, one year since operation.
2. Epithelioma of temple and chin (curetted and cauterized), eight months since operation.
3. Round celled sarcoma of forearm, relieved after two operations with knife; has not returned six months after cauterization.
4. Epithelioma of right temple; six months since cauterization and no sign of return.
5. Epithelioma of right ala nosi; ten months since caustic applied; thus far no recurrence.
6. A naevus, capillary, on cheek of young female age 16, complete removal with hardly perceptible scar.

In all the malignant cases no positive assertion as to radical cure can be made; still the length of time which has elapsed is encouraging, especially when dealing with localities in which even the most disfiguring operations with the knife are liable to be followed by recurrence. Certainly, I must state in regard to this paste that, like all powerful caustics, it appears to attack with special vigor the diseased tissue in preference to the healthy, simply, of course, because of the lessened resistance of the former. Of course, its diffusive and penetrative power can be regulated to a great extent by the length of its stay in the affected parts, the time being in direct ratio to the intensity, provided other circumstances are equal. One of the features of greatest importance in preventing the action of the caustic is the skin; if this cover the mass that it is desired to remove, it must be destroyed. To destroy the skin it is necessary to employ Vienna paste or some similar caustic; Bougard uses the Vienna paste, and, I believe, Felix also. During the action of the paste, which produces in most persons a good deal of pain, perhaps the only pain experienced during the whole of the treatment, (certainly the most acute pain), the

patient may be kept partly under the influence of an anæsthetic or may be given opium or morphine.

It is well to remember the technical directions for applying the caustic paste. Bougård has laid down a method which is intended for his own caustic, but it will do with slight modification for Felix's paste; I shall repeat it here.

“Suppose that a tumor of the size of an egg (a cancerous tumor) has to be destroyed, and there are no complications. The patient is laid in a horizontal position, a little inclined toward's the sound side, the portion of skin to be cauterized is exactly defined with a pen and ink, and the Vienna paste, which has just been made into a paste, is rapidly applied within the limit which has been traced. In eight or ten minutes the whole thickness of the skin is cauterized; the caustic is then removed, the surface dried with pads of lint, and any sanguineous or serous oozing is arrested by touching the point from which it takes place with nitrate of silver. Then a layer of a special paste, about three millimetres thick, is applied with care not to pass beyond the line of limitation. The paste is kept within the limit by surrounding and covering it with lint, over which is a compress, the whole kept in place by a bandage. The caustic is left on about five hours, is then removed and replaced by a linseed meal poultice, which is applied fresh two or three times between its first application and the next day. As a rule, the pain subsides under the influence of the poultice; if not, the surface is sprinkled with laudanum, and the patient takes some more soothing (opium or morphia) mixture.

The next morning the eschar is incised all round at a distance of a quarter of an inch or less from the sound skin, and the dead tissue is raised and removed. When the surface has been cleansed, a layer of caustic seven or eight millimetres thick is immediately applied, and is surrounded as before by a thick layer of lint to protect the surrounding skin. The caustic is left on for six hours, then again replaced by a poultice.

“ The next day the same manœuvres; the eschar is removed, but not in its entire thickness, for two or three millimetres of it are left over the whole surface. The reason for leaving this thin layer of eschar is to avoid hemorrhage and to diminish the pain of the application, nor does the thin layers prevent the thorough action of the caustic. The caustic is applied anew, and, after five or six hours, the poultice.

“ Again, on the following day, the same measures. The applications are continued day by day until the tumor has been completely destroyed—a fact which is determined partly by a careful examination of the depth to which the tumor extended before the treatment was commenced, partly by the different character of the eschar. The eschar of a scirrrous tumor is hard and dull white; that of the connective tissue whitish yellow, in which little masses of fat are scattered, and very much softer. Poultices are now applied continuously until the separation of the eschar, which commonly takes place on the sixth or seventh day, when the surface of the granulating wound is examined with the utmost care to discover whether any of the disease remains behind. If there is the least suspicion that that is the case, the caustic must be reapplied without hesitation, care being taken to protect the surrounding surface of the wound by means of lint pads.

“ Finally, the opposed surfaces of the healthy wound are brought into apposition, or as nearly so as possible, by drawing them together by means of strips of fine linen, several of which are fastened by collodion on each side, and the free ends are tied in knots. This manœuvre may require to be practised many days in succession, and in those cases in which there has been a considerable destruction of the integument it may be impossible to bring them close together. When they have been brought into apposition, healing by the union of granulations usually occurs.” Farney’s plaster suture, which causes no pain in its application, is particularly well adapted to these cases.

In cases in which the patient is old, or delicate, or nervous, the applications of the caustic are only made at intervals of two or three days. The frequency with which they should be made, and the quantity of skin and the area of the surrounding tissues which ought to be destroyed, depend largely on the condition of the patient, the character and rapidity of growth of the disease, and on the action which the caustic has upon it. Medullary cancers, for example, are not so easily destroyed by the caustic as the harder forms, and a larger proportion of chloride of zinc will be required. As in all similar matters, the author declares that experience of the method will guide the surgeon as to the best manner of using the paste, and he who is most experienced and skillful will obtain the best results.

Finally a few words of caution : I would again emphasize the fact that in the course of these remarks I have not advocated the use of caustics in preference to the knife ; on the contrary, in equality of circumstances I would always prefer the knife ; but there are certain types of malignant disease, certain localities in which it presents itself, and certain classes of patients which call for some other means of eradicating the disease than that afforded by cutting instruments.

It may be said in a general way that the use of caustics should be restricted almost entirely to the more exposed parts of the body, and as far as I am concerned I would limit their application to those parts in which the knife cannot thoroughly and readily circumscribe the disease and leave a healthy area beyond it, especially about the face, or on those parts where the knife has already failed once or twice to prevent recurrence though a rather unfortunate (as regards recurrence) and considerable experience with certain forms of malignant disease of the breast would almost induce me to give it a trial in this affection, which would otherwise appear to be so favorable to the surgical treatment. There is no doubt, as

Butlin remarks, " that there is so much prejudice against the use of caustics, on account of the hands in which they have been chiefly held, that they have not been employed as frequently as they might reasonably be." There can be no doubt that the cancer curers employ them too frequently, and often foolishly and wrongly; but on the other hand, I feel that we do not employ them with sufficient frequency. " In selected cases, for the destruction of cancers of limited extent, in easily accessible situations in old or very feeble persons, when it is of the highest importance to avoid shock and hemorrhage, good results may be obtained with far less danger to the patients than can be afforded by operative surgery. The treatment is certainly painful, in some instances very painful, but there are many old and feeble persons, especially women, who will rather submit to great and long lasting pain than brace themselves up to undergo what is to them far more horrible—the trial of a surgical operation."*

* Since writing the above, I have been much pleased to see that similar opinions have been expressed in regard to the value of caustics in various recent papers, notably in an excellent paper by Dr. John C. Munro, "Escharotics in the Treatment of Malignant Disease," Boston Medical and Surgical Journal, Sept. 19, 1889, and in a short but vigorous editorial in the *International Journal of Surgery*, Nov. 1889. ¶

